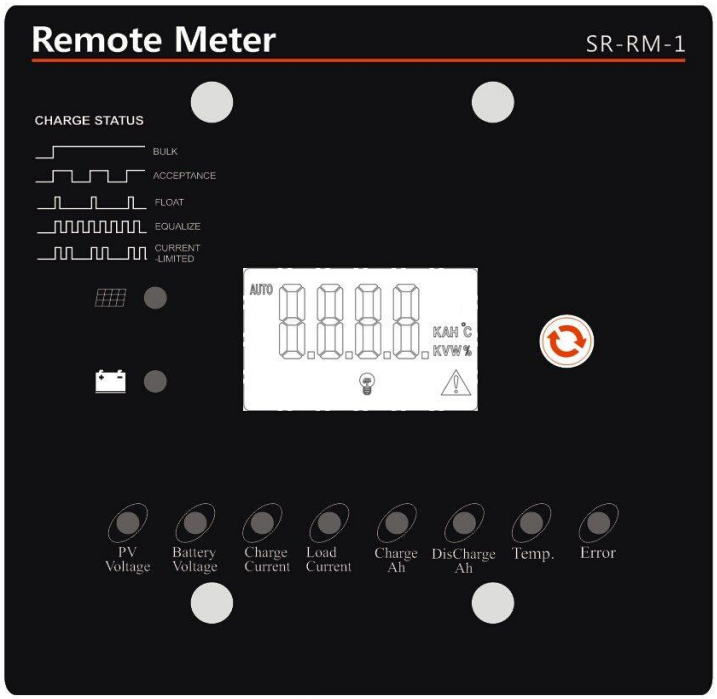
SR-RM Series LCD Unit
Type: SR-RM-1
User Manual



Accessory

Name	Quantity
LCD	1
USB（2m）	1
User Manual	1
4*12MM Screws	4
M4 Nut/Black Hexagonal	4

Dear users:

Thank you very much for choosing our products!

Please read the manual carefully before using.

1. Features

- Multi-function LCD, which can display the charging status and system parameters.
- Single button design, the operation is very convenient.
- It can browse the parameters automatically; each parameter will be shown on the LCD every five seconds.
- Eight status indicators that can display the corresponding items, the parameter check-up is intuitive.
- Adopts standard RJ12 communication interface.
- Without external power source, the controller can be normally use by link with USB.
- Industrial level design, which can be used under all kinds of severe environments.

2. Product introduction

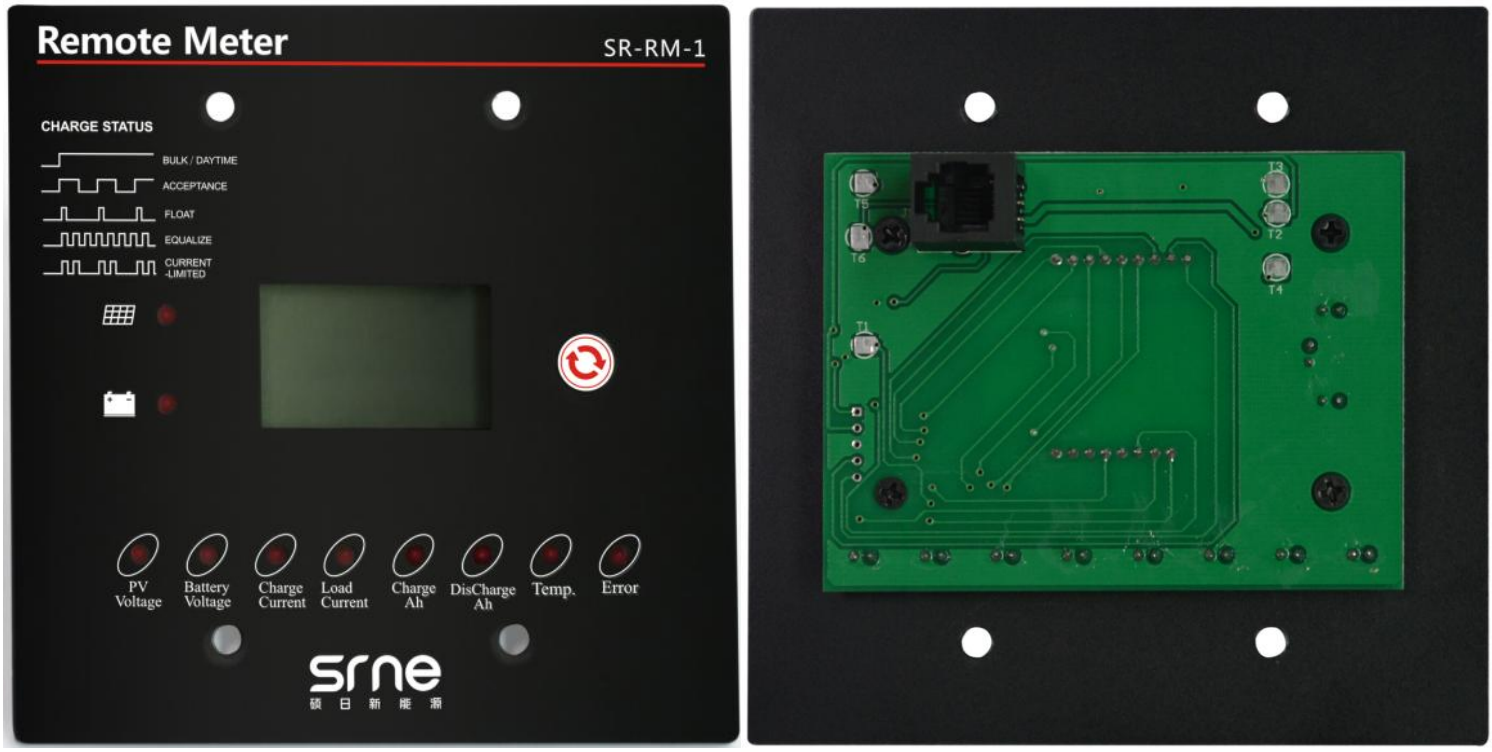
The LCD unit is specially designed for our MPPT controller 20A, 30A and 60A, the LCD and controller are linked by RJ12(6 needles) connector. It can be remote installed and displayed under different conditions; the LCD can display: Solar panels voltage, battery voltage, charge current, load current, charge and discharge capacity, internal environment temperature of the controller and the fault code. At the same time, the two status lamps can display the working status of solar panel and battery.

3. Using Suggestions and attentions

- The LCD unit can be only used with our MPPT controller 20A, 30A and 60A, please Confirm it before purchasing our product.
- USB: if you need purchase or make it by yourself, please strictly obey “the definition of USB “of the manual. Otherwise it may damage the display screen or controller.
- The displaying data will be updated each 10 seconds, the LCD data may be displayed

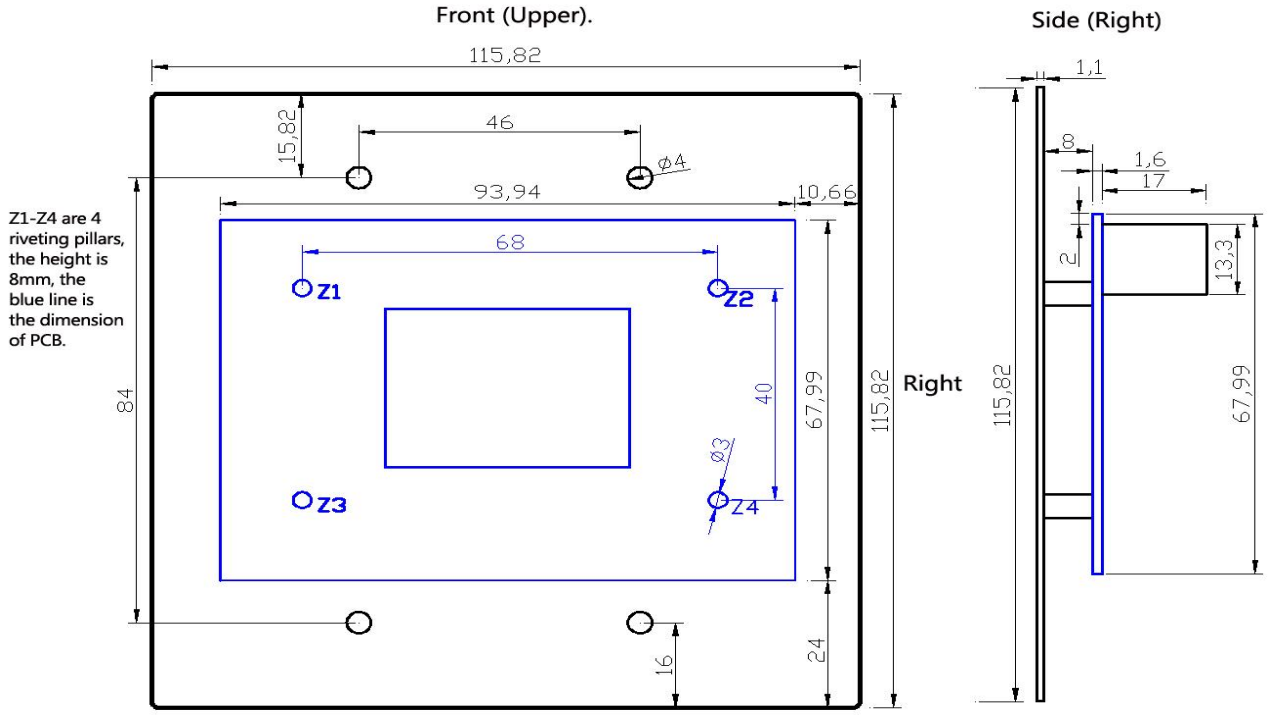
after the displaying of system data, and it’s a normal phenomenon.

4. Product Appearance.



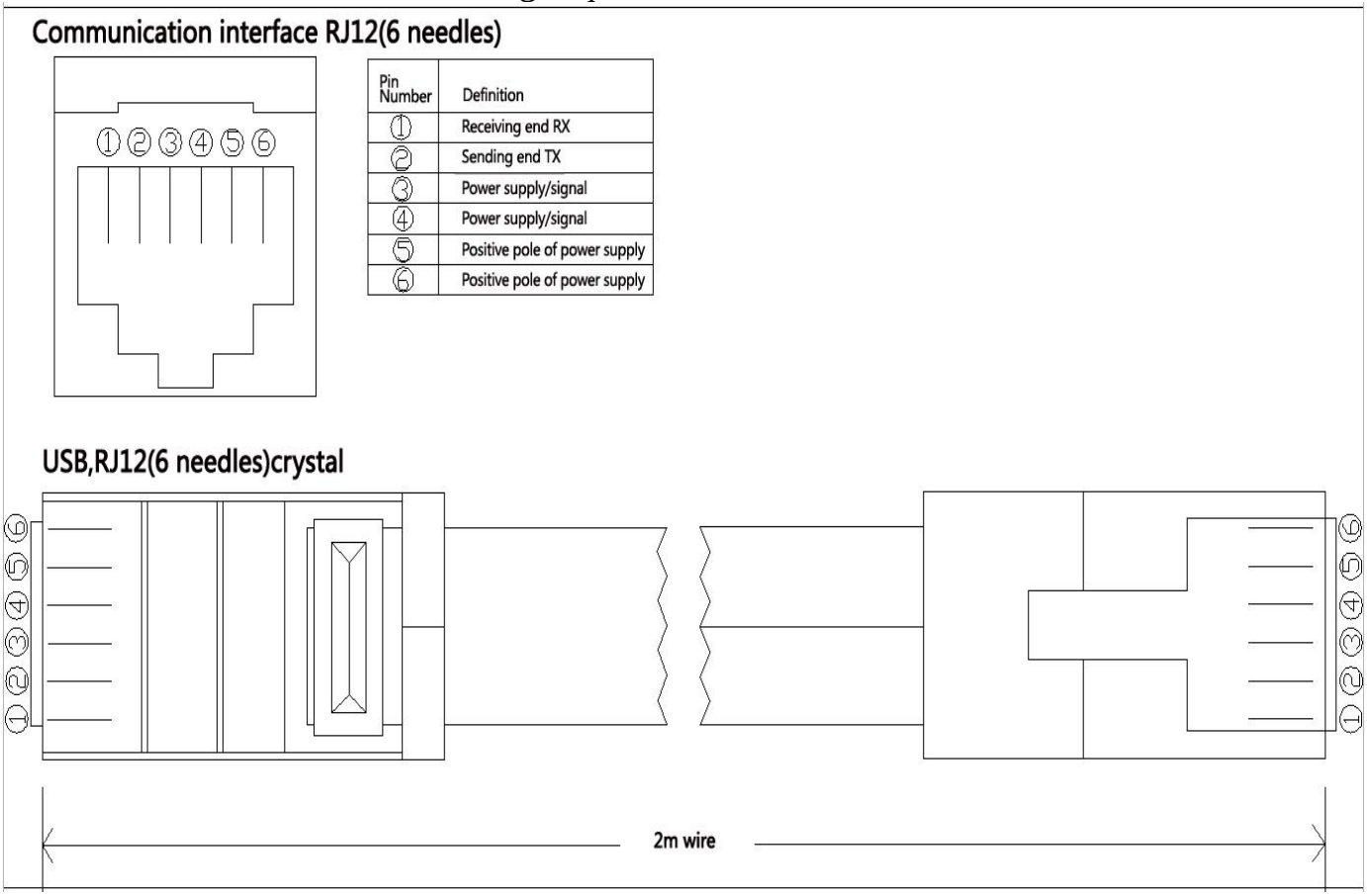
5. Installation instructions

- Controller should be tight installed，the dimension is as follows：
- Boundary dimension：115.82×115.82×27.7mm)
- Installation dimension：46×84(mm)
- Mounting aperture : ∅4(mm)



6. USB definition

- USB: adopts flat 6 core wire, RJ12 connector.
- The definition of wiring sequence of USB.



7. Parameter

Working current	<25mA(LCD Back Light ON), <10mA(LCD Back Light OFF),
Communication interface	RJ12 (6 needles)
The length of USB	2m
Weight	0.5kg
Working temperature	-35℃- +65℃；
Size	115.82×115.82×27.7(mm)（L×W×H）

8. Display item, Mode Setting and keys operation

Parameters format of displaying item and the fault code table.

Chart 1.

Displaying item	LED status	Displaying parameter format	Special functional keys
Solar panels voltage	Pv Voltage	999.9 V	under the four conditions，Long

battery voltage	Bat Voltage	99.99 V	press for 2 seconds，the eight status lamps will flash twice，it indicates that it enters into Auto -browsing mode. At the same time, LCD screen shows "Auto " on the left.
charge current	Charge Current	99.99 A	
load current	Load Current	99.99 A	
charge capacity	Charge_Ah	9999AH/99.99KAH/999.9KAH/9999KAH	When it is normal mode and the displaying item is charging capacity or discharge capacity，Long press for 2 seconds,， Send the order of clearing history data (the unit will change automatically)
discharge capacity	DisCharge_Ah	9999AH/99.99KAH/999.9KAH/9999KAH	
Temperature	Temp.	-40 ~ 127 ℃	
Fault code	Error	E0, no error	Once fault code appears, it will stop charging，the load will be disconnected，it will recover once the fault is removed.
		E1 ,PV is over voltage	
		E2 ,PV is over load	
		E3 , PV is short circuit	
		E4 ,the load is short circuit	
		E5 ,the load is over load	
		E6, the outer is over temperature	
		E7, the outer temperature sensor is damaged	
		E8 , the inside is over temperature	
		E9 , the inside temperature sensor is damaged	

LCD icon blink comparison

Chart 2.

LCD icon	Instruction content	status	functions
	Load indication	Normally on	Load is open
		Normally off	Load is off
		Fast twinkling	Overload or short circuit
	warning！	Slow twinkling	Abnormal communication

2 system status lights, The left side of the LCD screen has two lights：The above is charge indicator，the storage battery indicator is below.

- Chart 3.

LED	Instruction content	status	functions
	Charging indication	Normally on	No voltage on battery panel
		Normally off	Bulk charging(MPPT)
		Fast twinkling	Equalizing charging
		Slow twinkling	Boost charging
		Single twinkling	Float charging
		Double twinkling	Current limit mode
	battery indication	Normally off	The battery is unconnected
		Normally on	Battery is working normally
		Fast twinkling	Battery is over voltage
		Slow twinkling	Battery is discharge

Eight status display lights

Below the LCD has eight status display lights, the function is to indicates each parameter,

From left to right are: solar panel voltage, battery voltage, charging current, load current, charging capacity, temperature display, fault code.

Normal mode

In normal mode，press the button for a short time，it can check each parameter of chart 1 in sequence or in circulation.

Auto browsing mode

Enter the auto browsing mode: under normal mode condition and the displaying items are solar panel voltage, battery voltage, charging current, load current, Long press for 2 seconds, the eight lamps below the LCD will flash twice， At the same time, the left upper corner of the LCD displays “Auto". The LCD screen will display all the parameters each 5

seconds.

Exit automatic browsing mode: under Auto mode (long press), short press the button to exit the Auto mode.

Remove the historical data

Controller historical data which includes the total charge Ah, the total discharge Ah.

In normal mode, it displays the charging and discharge capacity status, long press for 2s, the capacity data will flash twice for 6 ~ 15 seconds, and clear it to 0. (Note: if it's abnormal communication, long press will not execute the order of clearing the historical data).

9. Common problems and solutions

Problems	Solutions
The LCD short horizontal line（- - - - ），it increases or decreases for a long time	Please check if the connection of the screen and controller is correct, or if the controller is working normally.
⚠ icon slow twinkling	
LCD screen is off	
The screen icon and all status lights are twinkling	Please check if the battery is well connected
The panel indicating light is off when there has sunshine	Please check if the solar panel input voltage is enough(the panel voltage is slightly greater than the battery voltage), it can be charged if it meets the r equirement, or please check if the connection is right.
Panel charging indicator light flashes fast	The system is over voltage, please check if the battery voltage is too high.
Battery indicator is off	Please check if the battery connection is right.
Battery indicator flashes fast, no output	The battery is over discharge, it will recover if it is full charged.
The load indicator flashes fast, no output	The load power has exceeded the rated power or it is short circuit, after removing the trouble, it will recover by long pressing the key or at a certain time (5-60 seconds).
The load indicator is normally on without output	Please check if the power equipment is well connected.